

UNCLASSIFIED
SECURITY CLASSIFICATION

AD-A241 276



①

PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION / AVAILABILITY OF REPORT		
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE			4. MONITORING ORGANIZATION REPORT NUMBER(S)		
4. PERFORMING ORGANIZATION REPORT NUMBER(S) DOD POP HMTR/AYD 91-014			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION PACKAGING DIVISION		6b. OFFICE SYMBOL (If applicable) SMCAR-AEP		7a. NAME OF MONITORING ORGANIZATION	
6c. ADDRESS (City, State, and ZIP Code) U.S. ARMY ARMAMENT RESEARCH, DEVELOPMENT AND ENGINEERING CENTER PICATINNY ARSENAL, NJ 07806-5000				7b. ADDRESS (City, State, and ZIP Code)	
8a. NAME OF FUNDING / SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c. ADDRESS (City, State, and ZIP Code)		10. SOURCE OF FUNDING NUMBERS			
		PROGRAM ELEMENT NO.		PROJECT NO.	TASK NO.
					WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) PERFORMANCE ORIENTED PACKAGING TESTING OF CHARGE PROPELLING 155MM: XM230 IN PA103 CONTAINER					
12. PERSONAL AUTHOR(S) Burt Lohnstein					
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM 3/91 TO 4/91		14. DATE OF REPORT (Year, Month, Day) 91-07-17	
15. PAGE COUNT 3					
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	PERFORMANCE ORIENTED PACKAGING, POP, CHARGE, PROPELLING, 155MM: XM230 IN PA103 CONTAINER, ...		
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					
THIS REPORT CONTAINS THE TEST RESULTS PERFORMED ON THE CHARGE, PROPELLING 155MM: XM230 IN PA103 CONTAINER. (PACKED 5 CHARGE PROPELLING 155MM, XM230 IN ONE PA103 CONTAINER)					
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT <input type="checkbox"/> UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED		
22a. NAME OF RESPONSIBLE INDIVIDUAL BURTON LOHNSTEIN			22b. TELEPHONE (Include Area Code) 201-724-2557		22c. OFFICE SYMBOL SMCAR-AEP

91-10327



Statement A per telecon Burton Lohnstein
Army Armament Research Dev & Eng. Center
ATTN: SMCAR-AEP
Picatinny Arsenal, New Jersey 07806-5000
NW 10/1/91

Accession For
STC GRAH
DTIC Tab
Unannounced
Justification

1. DATA:

Container:

Type: Container, Metal
UN Code: 1A2
Nomenclature: Container, Ammunition, Metal: PA103
Specification Number: MIL-C-63461
Drawing Number: 9349398
Material: Steel
Capacity: 12.7 kg (28 lbs)
Dimensions: 19.0 cm x 19.0 cm x 96.0 cm (7.49 in x 7.49 in x 37.99 in)
Gross Weight: 22 kg (48.5 lbs)

By
Distribution/
Availability Codes

Avail And/or
Special

A-1

Product:

Name: Charge, Propelling, 155MM XM230
Drawing Number: 12945131
United Nations Number: 0242
United Nations Packing Group: II
Physical State: Solid
Amount per Container: 5 XM230 Propelling Charges



2. BACKGROUND:

This report contains the testing and test results performed on the XM230 Propelling Charge in PA103 Container. The metal drum (container) PN9349398 packs 5 charge propelling 155MM XM230 in accordance with drawing 12937952 (3 sheets). The test performed exceeded the Performance Oriented Packaging test regulations.

3. TEST:

- a. Fourteen containers were vibrated for 30 minutes at elevated temperature (either -60 degrees F or +145 degrees F) and 30 minutes at ambient (+70 degrees F) temperature. Each container was vibrated in accordance with POP test requirements for a total of 60 minutes.
- b. Fourteen containers were dropped once each from 1.8 meters (7 feet) on a 5-inch solid steel plate reinforced by 31 inches of concrete. The most vulnerable orientations are top and top 45 degrees. The orientations, quantities and temperatures tested at are as follows:

Top	3 containers (POP)	3@ -65 deg F	
Top 45 Deg	3 containers (POP)	3@ +145 deg F	
Bottom	2 containers	1@ -65 deg F	1@ +145 deg F
Bottom 45 Deg	2 containers	1@ -65 deg F	1@ +145 deg F
Side	2 containers	1@ -65 deg F	1@ +145 deg F
Side 45 Deg	2 containers	1@ -65 deg F	1@ +145 deg F

14 containers

3. TEST (CONTINUED)

- c. Three containers were subjected to a 48 hour stacking test utilizing T. Olsen testing machine using a scale value of 2.5 pounds per increment. An initial load of 115 pounds was applied and then increased to 1140 pounds which was maintained for 46 hours. After 48 hours, no change in load was observed and no degradation of the three containers was observed.

4. RESULTS:

The containers passed all tests since none of the contents were discharged. They are considered safe for international transportation in accordance with Performance Oriented Packaging regulations.

5. REFERENCE MATERIAL:

United Nations, "Transport of Dangerous Goods," 6th Edition.